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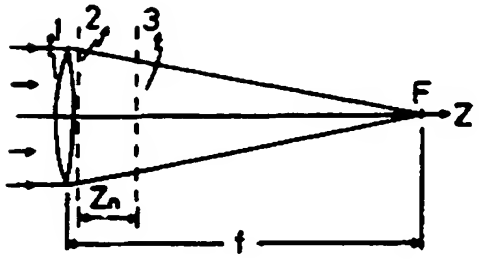
TITLE : FOCAL-LENGTH MEASURING METHOD OF LENS BY USING MOIRE FRINGE



ABSTRACT : PURPOSE: To perform continuous measurement along the entire area of a lens to be examined, by arranging a pair of grating plates having a suitable interval and an equal pitch immediately after the lens to be examined, and shortening the length of a measuring device.

CONSTITUTION: The plane wave of light having a wavelength λ is inputted to a lens 1. The transmitted light wave is projected on a first grating 2. Then a Fourier image having the same period structure as that of the grating 2 and a negative Fourier image are formed. On said Fourier image plane, a second grating 3 is arranged so that it is slightly inclined relatively with respect to the grating line of the grating 2. Then Moire fringes are yielded by the Fourier image of the first grating 2 and the second grating 3. From this slant angle, the focal length of the lens is directly obtained. When an interval Z_n between the two gratings and the slight relative angle of the grating lines are fixed, the focal length or refracting power of the lens is obtained by measuring the slant angle of the Moire fringes.